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BY

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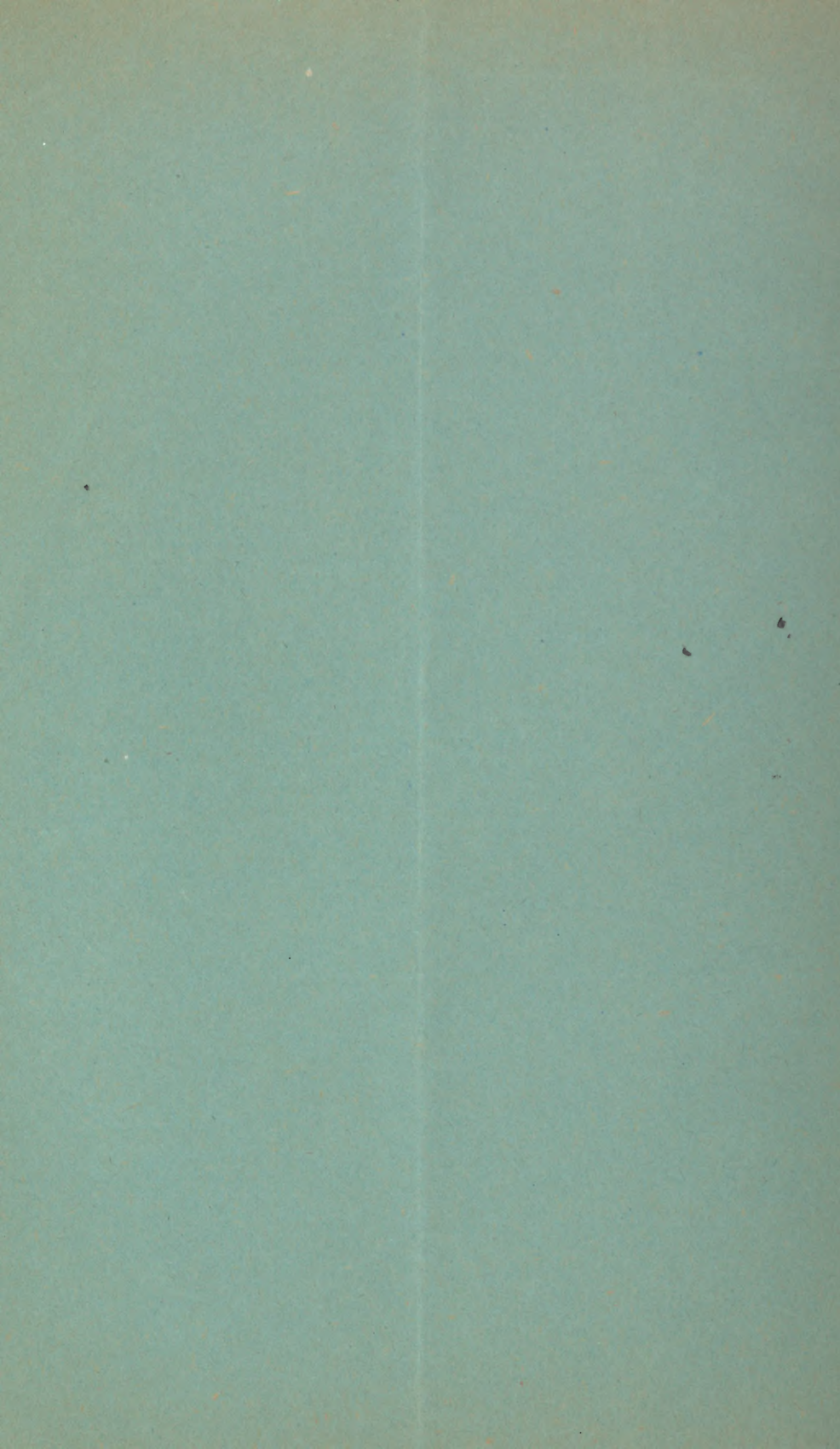
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A CASE OF LEUKÆMIA, WITH RARE LYMPHOID GROWTHS OF ORBITS AND PAROTID GLANDS.

BY THOS. D. DUNN, M.D.,

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H. G., aged eight years, came under my observation in the spring of 1891, in consultation with Dr. Pyle, of Glen Mills, with a stubborn case of granular conjunctivitis. Although slightly anæmic at the time, he seemed to enjoy good health. There was no history of cancer, syphilis, or tuberculosis in either the father's or mother's family. He had a younger sister who made a complete recovery from a severe attack of scarlatinous nephritis a year before. The subject of this report had not been a robust child, but never had any serious illness. He was unusually intelligent and studious.

The lids improved under yellow oxide ointment and occasional applications of nitrate of silver solution.

For the anæmia tincture of the chloride of iron and cod-liver oil were prescribed. In autumn he returned to school and studied without discomfort. General condition good.

The patient was again brought to me December 15, 1891, for a slight swelling in the left parotid gland—about one inch in each diameter. This swelling was quite hard, with well-defined outline, and immovable. It impressed me as a growth of unusual position and character. It was not tender, but was slightly adherent to the skin, which was not discolored except by enlarged subcutaneous veins.

The parents noticed the swelling three weeks previous to my examination, but attributed it to cold contracted at school, where he sat by a broken pane of glass—his left side being exposed. The cervical lymphatic glands were not enlarged. Skin and mucous membranes pallid. He was ordered a highly nutritious diet, the syrup of iodide of iron internally, and locally tincture of iodine to the enlarged gland.

Dr. Pyle was again called to the case January 23, 1892, and found slight increase in the parotid swelling, and an appreciable enlargement of the cervical lymphatic glands of left side. During this period the anæmia and loss of flesh steadily progressed in spite of the most carefully regulated diet. Dr. Pyle directed as much easily assimilated nourishment as possible, and the continued use of tincture of chloride of iron, Fowler's solution, bichloride of mercury, and, at times, quinine and cod-liver oil. Soon the axillary and inguinal lymphatic glands began to enlarge. About the middle of March a hardness began to develop over the eyes, with slight thickening in both temporal regions. The pulse was weak, and ranged from 96 to 116. Temperature was never below 99°, or above 101° during February and March. He kept about the house, and was frequently on the piazza for play. The anæmia and emaciation steadily progressed.



April 5. The patient contracted a heavy cold, causing a temperature of 103° , and severe sore-throat. I was called in consultation April 12th, and found an ashy gray membrane over both tonsils, extending to

FIG. 1.



FIG. 2.



uvula and soft palate; submaxillary lymphatic glands enlarged and tender; temperature 102° ; pulse 130; swallowing difficult and painful; marked emaciation; lips, tongue, and nails blue and very anæmic;

occipital, inguinal, axillary, and cervical lymphatic glands moderately enlarged, but not tender; spleen and liver slightly enlarged, but no tenderness over them. The patient had suffered from attacks of pain in splenic region for some time. The left parotid gland was greatly enlarged, of stony hardness, outline well defined. There were also crescentic bodies over either eye, not firmly connected with lids. These swellings began at nasal end of orbit, and extended outward beyond external canthus, the larger end toward the nasal angle. These were also of marked hardness, but somewhat elastic, free from tenderness, slightly attached to lids, but firmly attached to orbital arches. They caused considerable exophthalmus, but only partially interfered with motion of lids. No conjunctivitis; corneæ healthy; vision normal.

Similar, but flat, hyperplasias were found in each temporal region; the outline of these was not so well defined. A careful search revealed no other such growths. Marked deafness was attributed to the closure of external auditory canals by the parotid and temporal hypertrophies. Treatment was directed to the recent diphtheritic complication.

14th. The condition of throat was improved; temperature 101°; pulse rapid, feeble, compressible; submaxillary lymphatics decreased and less tender to touch. Nourishment and stimulants were given freely and well retained. A drop of blood under the microscope showed a decided increase in white corpuscles. The blood was of a very pale color, resembling sero pus mixed with blood. This examination confirmed the diagnosis of leukæmia, which had been suspected at previous visits by both Dr. Pyle and myself.

17th. Slight improvement in the general condition, owing to the subsidence of the acute diphtheritic attack. Temperature 100°; pulse 124.

At this visit a careful blood-count was made. The result showed one colorless corpuscle to fifteen red; 1,830,000 corpuscles (of which 122,000 were white) to a cubic millimetre, and about 30 per cent. of hæmoglobin. Both hæmoglobin and number of corpuscles were less than one-third the normal amount.

May 7. I saw him for the last time. The anæmia and emaciation had increased; temperature 100 $\frac{2}{3}$ °; pulse 124, and very feeble. The deafness had also increased, but vision was still good. Unfortunately no ophthalmoscopic examination was made. The leukæmic growths had all increased, and a small growth about one-half inch in diameter had developed in the right parotid gland, directly in front of the ear.

The little sufferer had had several attacks of epistaxis, and on May 5th had two hemorrhages of bowels. He steadily grew weaker, and died of exhaustion May 18th. Unfortunately, we were unable to secure an autopsy, or even to obtain a portion of the described growths for microscopic examination. There can be no doubt, however, as to the diagnosis of leukæmia.

After a careful search I have been able to find the record of but few cases of similar leukæmic growths; doubtless there are others, but the scanty literature of the subject is indicated by the absence of any reference to this condition by modern writers in our leading medical works.

Dr. Henry D. Noyes (*Diseases of the Eye*, p. 666), however, cites a case of lymphoid growths of both orbits in Hodgkin's disease. This

case was reported in full in *The Medical News*, 1882, vol. ii. p. 681, by Dr. Richard H. Derby.

Cases have been carefully reported by Chauvel, Leber, Osterwald, and Fröhlich. The fact that I have been unable to find any reference to these in English, together with their very striking similarity to the clinical picture herein presented, justifies a somewhat full abstract of them.

FIG. 3.



Dr. Richard H. Derby's case of Hodgkin's disease.

Chauvel's case, reported in *Gazette hebdomadaire*, 1877, No. 23. Patient, aged forty-one years, custom-house officer, was admitted to the military hospital, Val-de-Grâce, October, 1876, for a tumor of left side of face. Previous to this his health had been good; no history of syphilis. In July, 1876, a small swelling appeared in left upper eyelid. It developed rapidly, and was free from tenderness and pain. By September it became painful. On admission to Val-de-Grâce the swelling had extended to the cervical lymphatic glands of both sides, which formed a chain the length of the sterno-cleido-mastoid. There were tenderness and redness at the most prominent point above left eye. Ulcers were found on left buccal surfaces. Neuralgic pains of left side of face and head existed, with profound cachexia. Tonic treatment and sedative applications were resorted to without benefit. Diagnosis by Prof. Perrin: sarcoma of face with symptomatic adenitis. November 12th he came under the care of Chauvel. The tumor occupied the left supra-orbital region, left upper eyelid, extending from slightly above eyebrow to root of nose. Left jaw also swollen. Left eye completely closed.

The tumor was elastic and hard, and seemed firmly attached to subjacent parts. There was slight deafness. Patient saw black spots before right eye. Ophthalmoscopic examination revealed normal media. Papilla also normal, but outside of disk were several hemorrhagic spots, one large one above and one below. Prof. Perrin states that the appearance of the retina was that of hemorrhagic retinitis, the result of his general state, and possibly leukæmia.

November 19th, had slight hemorrhage of bowels.

Died November 21st, from exhaustion.

The tumor of upper eyelid was composed of cellular elements analogous to those of lymphatic glands; these were united without apparent stroma. The growth extended to all parts of the eyelid, and was not encysted. Teasing the tissue disengaged reticulum similar to that of lymphatics. Unfortunately the medulla of the bones was not examined. The only lymphatic glands involved were those of the cervical region. The spleen was somewhat enlarged. Liver greatly enlarged; cells not diseased; interlobular capillaries were dilated and filled with leucocytes; masses of leucocytes were also found in interlobular spaces—changes which characterize the leukæmic liver. The right side of the heart was filled with chicken-fat clot. Large quantities of leucocytes were found in the vessels of the heart, but the organ was free from disease.

Unfortunately, no microscopical examination of blood was made, but the marked anæmia, enlargement of the lymphatic glands of the neck, and the accumulations in the vessels of the heart and the hepatic glands make the diagnosis of leukæmia indisputable.

Leber's case, reported in *Archives of Ophth.*, 1877, No. 24, p. 295. C. F., aged forty-eight years, with the exception of an attack of rheumatism had enjoyed good health prior to August, 1876. No history or evidence of syphilis or malaria. At that time he noticed a swelling of under lids and later of upper lids of both eyes, and suffered from languor and weakness. In September was treated by a foreign oculist with iodine internally and locally, without benefit. Had an abnormal prominence of eyeballs. On account of eye trouble appeared before Göttingen eye clinic, April, 1877. His condition was striking and unusual. Lids of both eyes enormously enlarged in all diameters on account of elastic growths which were not adherent to edge of orbits. Skin of a brownish color, with enlarged subcutaneous veins. Marked exophthalmus, the result of the outward pressure of tumors, which extended to subconjunctival connective tissue; also smooth distended swelling in region of temporal muscle, which extended toward forehead, larger on right side. Nasal cavities and mouth normal. Ophthalmoscopic examination revealed an extensive hemorrhagic retinitis of both eyes; papillæ red but not swollen. Condition similar in each eye. Vision: O. D., 20/xx; O. S., 20/xxx. Heart normal. Urine: specific gravity 1010; reaction acid; considerable albumin; granular casts and fatty epithelium.

Liver and spleen decidedly enlarged. Blood examination showed a large increase of white blood-corpuscles.

A small piece of growth removed from conjunctival surface was examined. It was soft, somewhat jelly-like, slightly transparent. Microscopical examination showed lymphoid cells crowded into connective-tissue meshes. This growth was, doubtless, analogous to leukæmic growths in other organs. Lymphatic glands of both sides of neck enlarged, and large, painful, thickened tumefaction over sternum. Marked lassitude and debility. Temporary improvement derived from general sweats and acetate of potassium. In May the patient's general condition was much worse; temporal and orbital tumors increased; liver and spleen greatly enlarged.

His condition steadily grew worse, and he died at the end of October, delirium having existed for eight days.

Leber believed this interesting condition to be the result of leukæmia. He, however, admits the possibility of the retinitis being due to the nephritis, but remarks that the extravasations extending to the periphery of the eye-ground are unusual in the latter disease. Unfortunately, an autopsy was refused.

Osterwald's case, reported in *Archives of Ophth.*, 1881, No. 27, p. 203. Patient, a boy, aged four years, appeared at Göttingen eye clinic May 25, 1881. Parents had always been healthy; both syphilis and hereditary disease denied. The boy had measles at the age of two years, was pale and weak afterward, otherwise had been healthy.

Soon after Easter parents noticed a swelling in right upper eyelid, and later

a similar swelling in left, the eyeballs protruding. When he appeared at the clinic the following symptoms were observed: Marked double exophthalmus. Both upper lids enlarged in all diameters, and under skin of left a network of bluish veins visible which extended to forehead and right temporal region. Right upper lid strongly pressed out by a hard, elastic tumor. This tumor began at orbital arch, to which it seemed attached, and extended from root of nose to outer angle of eye. In left upper lid was a similar growth, though not so large. In temporal region of either side was a smooth, round, subcutaneous swelling of doughy consistency.

Left conjunctiva and cornea normal; right conjunctiva injected and cornea ulcerated. Ophthalmoscopic examination showed left papilla cloudy, veins disturbed and tortuous; cornea interfered with examination of right retina.

The presence of hemorrhage could not be determined on account of restlessness of patient. Vision not accurately ascertained, but the face of a watch could be seen. Small hardened lymphatic glands on both sides of the neck. Complexion extremely pale and cachectic. Liver and spleen somewhat enlarged. Blood-count showed one white corpuscle to three or four red.

May 27. Prof. Ebstein was called to the case, and he mentions, in addition to the above, enlargement of inguinal lymphatic glands, and nodules along the costo-cartilaginous articulations of the ribs. Blood, fluid and watery, but not wanting in fibrin.

30th. Pulse rapid and feeble; some fever.

June 1. Slight fever.

2d. Temperature, 38.3° C. Epistaxis. Evening temperature, 38.8°.

3d. Evening temperature, 39.5°. Bleeding from nose and mouth. Died at midnight.

Autopsy by Prof. Orth. A number of small tumors, firm and of yellowish color, were found in both pia and dura mater, which were distinctly of adenoid character. Heart contained large, yellow, firm coagula. Strong tendency to ecchymosis over surface of heart, pleuræ and the entire alimentary tract. Bronchial lymphatic glands normal, but cervical, axillary, inguinal, and mesenteric glands enlarged, as were liver and spleen. Retinæ contained numerous small hemorrhages. Papillæ swollen and pale.

The orbital tumors on section showed meshes of reticular tissue infiltrated by leucocytes; the meningeal nodules showed the same structure. Orth regarded these leukæmic neoplasms as being of the lymphadenoid variety and a secondary result of the disease. The marrow of the ribs and right femur was soft and tender, and of the brownish-yellow color of leukæmic marrow.

Fröhlich's case, reported in *Wiener med. Wochenschr.*, 1893, Nos. 7, 8, 9, 10. A man aged twenty-five years, a painter, was first seen July 27, 1892. His mother had had frequent attacks of pulmonary hemorrhage; father and several sisters healthy. In youth the patient suffered from rhachitis, of which there are still marks on thorax. No history of syphilis.

May 1. Glands of axilla enlarged, associated with cough, expectoration, and dyspnœa; soon afterward other glands were involved and upper lids of both eyes began to swell.

July 27. Tumors in lids, size of walnuts; fundus of left eye normal; right could not be examined on account of growth. Tonsils and pharynx normal; vocal cords pale and movable, with two dark-red subcordal tumors. Cervical and axillary lymphatic glands enlarged, also small swelling in middle of forehead, right humerus, and right tibia. Examination of blood showed: red corpuscles, 3,570,000; white, 127,000—1 white to 26 red; hæmoglobin 70 per cent.

30th. Tracheotomy performed for the alarming dyspnœa, with complete relief. A sharp attack of pleuro-pneumonia terminated fatally November 24, 1892. Blood-count during the attack showed 2,882,353 red corpuscles, 8823 white—1 white to 326 red. The writer attributes this apparent improvement in the condition of blood to the pleuro-pneumonia causing the destruction of lymphatic elements. The swelling in orbits and lymphatic glands and the subcordal tumors were greatly reduced, the latter so much that the

voice before death was restored. Careful examination showed the tumors to be lymphomatous, and the reporter considered the disease pseudo-leukæmia.

Biesiadecki (*Jahrb. d. Ges. d. Aerzte*, 1876) describes a case of leukæmia with tumors of skin and enlargement of parotid glands. He also cites cases related by Haltenhoff, Mikulicz, and Gordon Norris, in which were similar growths of upper lids, parotid, and other salivary glands.

At the last Dermatological Congress, Peltauf and Riehl discussed the question of leukæmic skin tumors from a pathologico-anatomical standpoint.

Fuchs (quoted by Fröhlich) mentions the case of a man, aged sixty-one, who had for two years large lymphoid growths of upper lids, and Kaposi (*Jahrb. d. Ges. d. Aerzte*, 1885), one of lymphoderma perniciosa in connection with leukæmia.

Birk (quoted by Fröhlich) has called attention to a double exophthalmus dependent upon lymphomatous new growths of the back part of the orbit, but it is not stated whether leukæmia was present.

Hochsinger and Schiff (*Vierteljahrsschr. f. Dermat. u. Syph.*, 1887) mentions a case of leukæmia in an eight-months-old child, in which were lymphomatous growths involving head and skin.

Ziem (quoted by Fröhlich) cites a case of symmetrical swelling of both upper lids causing ptosis, in a man aged thirty, associated with enlargement of parotid glands, lymphatics of neck, of axilla, and orbital gland. Spleen not enlarged. Examination of blood showed nothing abnormal. A microscopical examination of a piece of the tumor showed quantities of granulative tissue. In the centre of the tumor was a tendency to cheesy formation, without the presence of tubercle bacilli. An intercurrent attack of erysipelas caused the tumors almost to disappear, but they returned after the attack subsided.



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